

Application No. 10/533969
Reply to Office Action of February 7, 2006

Docket No.: 12810-00084-US

REMARKS

Applicant respectfully requests reconsideration in view of the amendment and following remarks. Support for newly added claim 18 can be found in original claims 8 and 9.

Claims 9 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gradeff, U.S. Patent No. 3,840,601 ("Gradeff") in view of Janitschke et al. U.S. Patent No. 4,431,844 ("Janitschke") and Mitchell U.S. Patent No. 4,874,900 ("Mitchell"). The applicant respectfully traverses these rejections.

35 U.S.C. 112 Rejection

Claims 9 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The applicant respectfully disagrees. During the interview on June 1, 2006, the Examiner stated that he plan to withdraw this rejection.

35 U.S.C. 103(a) Rejection

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gradeff in view of Janitschke and Mitchell. Gradeff is considered as closest prior art by the Examiner. Gradeff describes a process for the preparation of β -hydroxy ketones (see claim 1). In a second step these β -hydroxy ketones can be transformed to the desired pseudo methyl ionones (unsaturated ketones) under "modified reaction conditions" (see claim 8).

There are other differences between Gradeff and the applicant's claimed invention other than the 4 differences outlined in the office action by the Examiner [Gradeff does not teach 1) the presence of water in the reaction, 2) the step of cooling the reaction mixture prior to

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removing the ketone product, 3) does not expressly teach tat the ketone starting material has a water content, and 4) does not teach the specific amount of catalyst present in terms of weight percentages]. Gradeff describes a stepwise addition/dehydration process which can only be carried out discontinuously (see reaction times in examples 1 to 7 from 23 to 126 hours). The teaching of Gradeff can therefore not be considered as a starting point for the development of a completely continuous process for the preparation of pseudoionones as that of the present application. Likewise Mitchell describes only the very basic discontinuous condensation of citral and acetone in the presence of aqueous sodium hydroxide (see example 2, col. 5, lines 53— 59) for the sole purpose of comparison. Mitchell does not provide any motivation to develop a continuous process using aqueous sodium hydroxide as a base. Furthermore, Mitchell has considered the teachings of Gradeff, where Mitchell discusses Gradeff in the background of the invention (see col. 1 starting at line 40).

Janitschke is discussed in the applicant's specification (see the published specification at paragraph nos. 6 and 35). In contrast to this Janitschke describes a continuous process for the production of pseudoionones by condensation of an appropriate aldehyde with a ketone in the presence of an aqueous alkali metal hydroxide solution. Janitschke is therefore to be considered as closest prior art.

The process according to Janitschke differs from that of the present application in that the reaction is carried out in a liquid/liquid two-phase reaction mixture (see col. 4, lines 6— 15). The two phases have to be mixed thoroughly throughout the process to achieve favorable results.

In contrast to this, the process of the present application is carried out in a homogeneous reaction mixture" (see claim 1) after removal of the undissolved aqueous compounds. Again, the step of removing the water and alkali metal hydroxide which have not dissolved in the

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reaction mixture is not taught in these references. This constitutes a major technical improvement, as the continuous mixing of the two phase reaction mixture in the reactor is no longer necessary.

Knowing about the regio- and stereochemical delicacy of the reaction (see e.g. the teaching of Gradeff) the person of ordinary skill in the art would not have expected that such an major change of reaction conditions would lead to favorable results (see examples 1 and 2 of the present application: residence times of 2 or 4 mm, conversions of 93 and 82 % at product purities of 98 %).

The Examiner must consider the references as a whole, In re Yates, 211 USPQ 1149 (CCPA 1981). The Examiner cannot selectively pick and choose from the disclosed multitude of parameters without any direction as to the particular one selection of the reference without proper motivation. The mere fact that the prior art may be modified to reflect features of the claimed invention does not make modification, and hence claimed invention, obvious unless the prior art suggested the desirability of such modification (In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984); In re Baird, 29 USPQ 2d 1550 (CAFC 1994) and In re Fritch, 23 USPQ 2nd. 1780 (Fed. Cir. 1992)). In re Gorman, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991) (in a determination under 35 U.S.C. § 103 it is impermissible to simply engage in a hindsight reconstruction of the claimed invention; the references themselves must provide some teaching whereby the applicant's combination would have been obvious); In re Dow Chemical Co., 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988) (under 35 U.S.C. § 103, both the suggestion and the expectation of success must be founded in the prior art, not in the applicant's disclosure). The applicants disagree with the Examiner why one skilled in the art with the knowledge of the references would selectively modify the references in order to

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arrive at the applicants' claimed invention. The Examiner's argument is clearly based on hindsight reconstruction.

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching, suggestion, or incentive supporting this combination, although it may have been obvious to try various combinations of teachings of the prior art references to achieve the applicant's claimed invention, such evidence does not establish prima facie case of obviousness (In re Geiger, 2 USPQ 2d. 1276 (Fed. Cir. 1987)). There would be no reason for one skilled in the art to combine Gradeff in view of Janitschke and Mitchell. For the above reasons, this rejection should be withdrawn.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

A one month extension fee has been paid. Applicant believes no additional fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 12810-00084-US from which the undersigned is authorized to draw.

Respectfully submitted,

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